

Appln. No. 10/666,593

Attorney Docket No. DKT03009

I. Amendments to the Specification

Please replace paragraph [0049], [0053], and [0058] with the following amended paragraphs:

[0049] Turning then to Figure 4, the right and left traction controller modules 250A and 250B are the same and thus only the left traction ~~control~~ controller module 250A will be described. Both modules 250A and 250B read the vehicle speed by being provided with the speed from all four ~~vehicle~~ wheel speed sensors 56, 58, 60 and 62, and also receive a signal from the steering wheel angle sensor 52, and the throttle position sensor 64. The slip error signal is optional and, when utilized represents the difference between actual wheel slip and calculated or expected wheel slip. From the vehicle speed and throttle position signals, a torque demand is determined by a subroutine 262. The output of the torque demand subroutine 262 is provided both to a second subroutine 264 which determines a target torque and also to a third subroutine 266 which provides a torque transition signal. The throttle position from the throttle position sensor 64 is also provided to a conditioning or filtering subroutine 268 which provides a filtered throttle signal to the target torque subroutine 264. The steering wheel angle from the steering angle sensor 52 is provided to a subroutine 272 which provides a signal relating to the status of the turn, either right or left, which is provided to both the subroutines second subroutine 264 and the third subroutine 266. The optional slip error signal in the line 260 is also provided to the subroutines 264 and 266. The ~~output~~ outputs of both the left traction controller module 250A and the right traction controller module 250B are provided to the arbitrator module 256, as illustrated in Figure 3.

[0053] The process step 306 provides a yaw control left torque request which is the product of a left clutch flag (one if the flag is set or zero if the flag is not set) times the left clutch control torque. In other words, if the left clutch flag is not set, the yaw control left torque request will be zero. If the left clutch flag is set, i.e., is equal to one, the yaw control left torque request will be the

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left clutch control torque. This is followed by a similar process step 308 which correspondingly determines the yaw control right torque request which is the product of the right clutch flag (either zero for off or one for on) times the right clutch control torque. Thus, if the right control clutch flag is set, i.e., is equal to one, the yaw control right torque request equals the right clutch control torque. If the right clutch flag is not set, the yaw control right torque request equals zero. These signals and an oversteer flag represent the output of the dynamics controller module 252.

[0058] Referring then to Figures 9A and 9B, the clutch selector logic subroutine 304 utilizes input data from the right front wheel speed sensor 58, the left front wheel speed sensor 56, the right rear wheel speed sensor 62 and a left rear wheel speed sensor 60, the yaw rate error sign, the yaw acceleration, the yaw acceleration reference yaw rate, and data from the steering wheel angle sensor 52. This information is provided to a process step 332 which sets the yaw sign as the sign of the yaw rate. The subroutine 304 then moves to a second process step 334 which sets the sign of the front wheel angle as the sign of the steering wheel angle. This is simply a positive or negative sign depending upon the current left of center or right of center position of the steering column 54 and the convention (either Society of Automotive Engineers (SAE) or the International Standards Organization (ISO)) utilized. According to the SAE standard or convention left of center is positive and right of center is negative. The ISO standard is the opposite. The process step 336 determines the average front wheel speed by adding the speed of the right front wheel and the speed of the left front wheel and dividing by two.